

REMARKS

Applicants have considered the February 26, 2007 Office Action, and the comments that follow are presented in an effort to address all issues raised in that Action and thereby place this case in condition for allowance. Claims 1 and 4-15 were pending in this application. In response to the Office Action dated February 26, 2007, claim 1 has been amended and claims 13 and 15 have been cancelled. No new matter has been entered. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the depicted embodiments and related discussion thereof in the written description of the specification. Entry of the present response is respectfully solicited. It is believed that this response places this case in condition for allowance. Hence, prompt favorable reconsideration of this case is solicited.

Claims 1, 6-8, 14 and 15 were rejected under 35 U.S.C. § 103(a) as being obvious over Newmoyer (U.S. Pat. No. 5,814,406, hereinafter "Newmoyer") in view of Ono et al. (U.S. Pat. App. Pub. No. 2003/0158309, hereinafter "Ono"). Applicants respectfully traverse the rejection under 35 U.S.C. § 103. The rejection is moot with respect to claim 15 which has been cancelled.

Independent claim 1 has been amended to describe, in pertinent part, a buffered optical fiber having a second coating layer on an outer peripheral surface of an optical fiber produced by providing a first coating layer on an outer peripheral surface of a glass fiber, wherein the second resin composition includes, as the base polymer, a mixture of polystyrene-based elastomer and polyphenylene ether polymer.

Ono discloses a combination of an aromatic polycarbonate resin (component A-1), a styrene-based resin (component A-2) and an aromatic polyester resin, as recited in claim 1 of

Ono. On the other hand, the base polymer of the present claimed subject matter is a mixture of a polystyrene-based elastomer and polyphenylene ether polymer, which is different from that of Ono.

In numbered paragraph [0152] of Ono, it is disclosed that a thermoplastic resin (including polyphenylene ether resin) may be mixed. Therefore, in Ono, the polyphenylene ether resin is not an essential material. On this point, Ono critically differs from the based polymer of the present invention.

Moreover, Applicants respectfully submit that Newmoyer is directed to an electrical wire for transmitting electrical signals by the conductor (Figure 1) and, therefore, completely unrelated to the present claimed subject matter, namely optical fibers. The present claimed invention is directed to optical fibers for transmitting optical signal by the glass, the electrical wiring of Newmoyer is used for transmitting electrical signals by the conductor. Fig. 1 of the present invention discloses that the glass fiber 11 is present in the center and claim 1 recites coating layers around the glass fiber. The present claimed optical fiber and the electrical wire of the applied reference are not only different from one another in terms of material, but also in the signal to be transmitted. As discussed below, the property which is required for the coating layer is different between the present invention and Newmoyer.

Applicants submit that when a resin is coated around glass, it is shrunk due to the application of heat and, thus, lateral pressure is applied to the glass and the double reflection index of the glass changes. With this change in reflection index, the loss of light transmitting within the glass increases. The present invention has evaluated this loss and reproduced the results in Table 1 (Optical Transmission Loss Characteristics, Temperature Change Resistance Property) of the present specification. Optical fibers are required to have good transmission loss

and temperature change characteristics. That is, the lateral pressure applied to the glass by the coating resin should be adjusted, and in view of this aspect, a resin suitable for optical fibers should be selected. Indeed, as described on page 26, lines 9-16 of the specification, when conventional buffered optical fiber undergoes abrupt changes in temperature, uneven stress is applied to the glass fiber. Thus, the glass fiber is easily distorted. The amount of transmission loss variation at the heat cycle test is large. Consequently, in the case of the conventional buffered optical fiber, the transmission loss due to the change in temperature increases.

The Examiner's attention is directed to page 28, line 2 through page 29, line 8 of the present specification, wherein a resin used for coating of an electric wire cannot be used for the coating resin of the optical fiber without modification. This section of the specification is reproduced below for the Examiner's convenience:

Incidentally, the device according to prior art 2 is a cable (or electric wire) adapted so that the flame retardant material (no nitrogen-based flame retardant material is intended) is added to at least the outer surface and the overall sheath of the insulator covering the conductor. Patent document 2 describes a material for the insulator according to prior art 2, which comprises polyphenylene oxide, low-density polyethylene and SEBS as resin components. Even in the case of such an electric cable, an end surface of the conductor may protrude from the end surface of the insulator (this phenomenon is sometimes referred to as "protrusion"). However, even when the "protrusion" occurs, for example, in the case that such a cable is connected to another communication member at its end surface, a conduction failure is not actualized. However, when the "protrusion" occurs in the case that the buffered optical fiber is connected to another communication member at its end surface, unintended stress is applied to the glass fiber, so that the optical transmission characteristics are degraded, and that the glass fiber is broken in the worst case.

Therefore, even when the insulator according to prior art 2 is applied to the buffered optical fiber according to prior art 1, the insulator according to prior art 2 differs from the insulator of the buffered optical fiber according to the embodiment of the invention, in that the former insulator comprises no nitrogen-based flame retardant material. Thus, the buffered optical fiber according to the embodiment of the invention is not obtained from the prior art. Additionally, it is not ordinarily considered by those skilled in the art that the insulator according to prior art 2, which causes the problem of the "protrusion" of the optical fiber, is applied to the buffered optical fiber according to the embodiment of the invention.

Thus, contrary to the Examiner's assertion, Newmoyer's coating for electrical wiring is not suitable for optical fibers. Contrary to the Examiner's assertion in the February 26, 2007 Office action, the buffer layer of Newmoyer is not suitable as flame retardant coating for optical fibers. Applicants provided evidence by referring the Examiner to the specification which details that a resin used for coating of an electric wire cannot be used for the coating resin of the optical fiber without modification. The Examiner's comment at page 7 of the Office action regarding the absence of the term "protrusions" in claim 1 is irrelevant. Applicants have identified the problem of protrusions when a resin used for coating of an electric wire is used as the coating resin of optical fiber. Thus, one of ordinary skill in the art would not have been motivated to use a resin designed for electrical wires on optical fibers due to known problems.

Furthermore, even if Newmoyer and Ono are combined as suggested by the Examiner, and Applicants do not agree that a requisite fact-based motivation has been established, the claimed buffered optical fiber would not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). Ono is silent as to using its resin compositions for coating optical fibers. The hard resin of Ono is used for exterior and interior parts for OA equipment and home electric appliances and it is hard. However, a buffered optical fiber of the present invention is not rigid. It is wired by being bent -- gently. The polycarbonate resin of Ono is not suitable for the buffered optical fiber of the present invention. Thus, it should be readily apparent that the Examiner's combination fails to result in a buffered optical fiber. The rejection is not legally viable for at least this reason.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection.

Dependent claim 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Newmoyer in view of Ono. Applicants respectfully traverse.

Applicants incorporate herein the arguments previously advanced in traversal of the rejection under 35 U.S.C. § 103(a) predicated upon Newmoyer and Ono. If any independent claim is non-obvious under 35 U.S.C. § 103(a), then any claim depending therefrom is non-obvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Dependent claims 5 and 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Newmoyer. Applicants respectfully traverse. Applicants believe the rejection of dependent claims 5 and 9-12 should have been predicated upon Newmoyer in view of Ono, since the Examiner admitted that Newmoyer does not disclose the polymer base as required in claim 1. Thus, the rejection of these dependent claims is not legally viable over Newmoyer alone. The Examiner is requested to clarify the rejection and record so that Applicants can be afforded an opportunity to respond to the rejection. Nevertheless, dependent claims 5 and 9-12 are free from the applied art in view of their dependency from claim 1. Accordingly, the rejection is not legally viable and should be withdrawn.

Independent claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Newmoyer in view of Caveney (U.S. Pat. App. Pub. No. 2003/0128938, hereinafter "Caveney"). Applicants respectfully submit that the rejection is moot in view of the cancellation of claim 13.

It is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

10/523,994

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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